

CLAIMS

What is claimed is:

1. An arrangement, comprising:
 - an electrically operated production machine having at least one electric motor and a machine element; and
 - a temperature control system for maintaining the machine element at a controlled temperature, said temperature control system including a heating means for using thermal losses generated by the motor to heat the machine element.
2. The arrangement of claim 1, wherein the heating means includes a heat exchanging circuit for directing the thermal losses of the motor to the machine element.
3. The arrangement of claim 1, wherein the heating means is a heat exchanger forming part of the motor.
4. The arrangement of claim 3, wherein the heat exchanger is constructed to have at least one tube for ensheathing the motor.
5. The arrangement of claim 3, wherein the heating means includes a liquid or gaseous fluid for circulation through the heat exchanger.

6. The arrangement of claim 5, wherein the heating means is constructed such that the fluid flows around the machine element.
7. The arrangement of claim 5, wherein the heating means is constructed such that the fluid is able to flow through the machine element.
8. The arrangement of claim 2, and further comprising an active conveying means operatively connected to the heat exchanging circuit for conveying the fluid.
9. The arrangement of claim 8, wherein the conveying means is a pump.
10. The arrangement of claim 1, and further comprising a cooling element for decreasing a heat flux dissipated from the motor.
11. The arrangement of claim 1, and further comprising a heating element for increasing a heat flux dissipated from the motor.
12. The arrangement of claim 1, wherein the motor includes a motor control for controlling the motor such as to optimize the use of the thermal losses from the motor to heat the machine element.

13. The arrangement of claim 1, and further comprising a bypass to circumvent the machine element to allow a decrease of a heat flux through the machine element.
14. A production machine, comprising:
 - an electrically operated motor;
 - a machine element; and
 - a temperature control system for maintaining the machine element at a controlled temperature, said temperature control system including a heating means for using thermal losses generated by the motor to heat the machine element.
15. The production machine of claim 14, wherein the heating means is a heat exchanger formed integrally with the motor.
16. The production machine of claim 14, wherein the heating means is a tube wrapped around the motor.
17. The production machine of claim 14, and further comprising a pump for returning the fluid exiting the machine element in a direction of the heating means.

18. The production machine of claim 17, and further comprising a cooling element disposed between the pump and the heating means for decreasing a heat flux dissipated from the motor.
19. The production machine of claim 15, and further comprising a heating element disposed downstream of the heat exchanger and upstream of the machine element for increasing a heat flux dissipated from the motor.
20. The production machine of claim 14, and further comprising a motor control for controlling the operation of the motor to suit a demand of heat for the overall production process.
21. The production machine of claim 14, and further comprising a bypass to circumvent the machine element to allow a decrease of a heat flux through the machine element.